

REMARKS

Claims 11-26 are pending in this application. Claims 22-24 stand rejected under 35 USC 102(b) as being anticipated by Kear. Claims 11-15, 17-21 and 25 stand rejected under 35 USC 103(a) as being unpatentable over Kurz in view of Kear. Claims 16 and 26 stand rejected under 35 USC 103(a) as being unpatentable over Kurz in view of Kear and further in view of Caballero.

Rejections under 35 USC 102:

MPEP §2131 provides that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as contained in the claim. The elements must be arranged as required by the claim.

Independent claim 22 includes limitations directed to a three layer structure, with the intermediate layer having no single-crystal or directional structure and the substrate and upper layers having a single crystal structure. Kear FIG. 2 illustrates a three layer structure wherein the outer layers are amorphous (i.e. having no single-crystal or directional structure), and the intermediate structure is described only as "crystalline". Thus, the order of the layers in Kear are inconsistent with the order of the layers of claim 22 and thus Kear does not support a rejection under 35 USC 102. Further, there is no teaching in Kear of any "single crystal" structure. To the contrary, the illustration of FIG. 2 of Kear shows a columnar grained structure, which teaches away from a single crystal structure. Thus, the lack of any single crystal structure in Kear further demonstrates that Kear does not support a rejection under 35 USC 102.

Thus, reconsideration and withdrawal of the rejections of claims 22-24 under 35 USC 102 are respectfully requested.

Rejections under 35 USC 103:

Reconsideration of the rejections based upon a combination of the teachings of Kurz and Kear is respectfully requested because 1) there is no motivation to combine these references, and 2) the combination fails to describe the claimed invention.

1) MPEP 2145.X.D.2 states that "It is improper to combine references where the references teach away from their combination." MPEP 2143.01(VI) states that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.

The entire teaching of Kurz concerns depositing a layer of material 43 on a substrate 41 in such a way that the layer assumes the crystal structure of the underlying substrate. This is just the opposite of the teaching of Kear, where the amorphous layer 10 or 10a and 10b is purposefully deposited to be different than the crystalline layer 12 because Kear desires a benefit derived from the amorphous nature of the layer 10 or 10a and 10b. Thus, the teaching of Kurz would destroy the functionality of the Kear invention, and there is no motivation to combine the two.

In *KSR International Co. v. Telefax, Inc.*, 550 U.S. \_\_\_\_ (2007), the Court declared that "an Examiner must identify a reason that would have prompted a person of ordinary skill in the art in the relevant field to combine the elements in the way the new claimed invention does." KSR Opinion at p. 15. The Examiner has failed to identify any such reason.

2) Even if one were to combine the teachings of Kurz and Kear, the resulting combination fails to include the limitations of the independent claims 11 or 25.

Claim 11 requires the step of applying an intermediate layer having no single-crystal or directional structure onto a single-crystal substrate. If one were to use the method of Kurz to apply an intermediate layer of material to the claimed single crystal substrate, the result would be a single crystal intermediate layer, which teaches away from claim 11.

Claim 25 requires that an intermediate layer having no single crystal or directionally grown structure is applied over a single crystal substrate. In contrast, if one were to use the

method of Kurz to apply the claimed intermediate layer, it would necessarily have a single crystal structure, which teaches away from claim 25.

Thus, reconsideration and withdrawal of the rejections of claims 11-15, 17-21 and 25-26 under 35 USC 103 are respectfully requested.

**Conclusion**

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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